

SPORTS MEDICINE: PROBLEMS AND PROSPECTS



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The scientific papers presented research sports medicine issues, revealing the social aspects of the development of diseases in low physical activity, the need for medical supervision to preserve the health of students, the influence of exercise on the female body. Important issues are discussed in the works devoted to methodological problems of research of athletes, as well features of the cardiovascular system in elite athletes and sports veterans.

The scientific papers will be useful to sociologists, sports physiologists, cardiologists, sports doctors.

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Scientific papers presented in the author's edition.

На 1-й стор. обкладинки: професор Романчук Олександр Петрович проводить обстеження спортсменів збірної команди України з боксу (Professor Oleksandr P. Romanchuk is conducting a survey of athletes' team of Ukraine on boxing)

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INTRODUCTION

In modern conditions the preparation of high qualification sportsmen is aimed at improving sports skills of a particular athlete, and to a large extent depends on the balanced interaction of many functional systems of the body that determine the nature of its adaptive capacity.

These adaptive characteristics include related functioning of the hemodynamic system, metabolism, immunological and hematopoietic values, the general profiles of which, according to the majority of the parameters, must remain within the limits of the statistical fluctuations corresponding to the same sex and age range of people, not deliberately engaged in a certain type of sports activity.

In other words, the optimal method of preparation of highly qualified athletes is the one allowing to achieve rapid growth of sportsmanship at the highest balance of individual performance and integrated level of functional systems that determine the adaptive reserves of an athlete while fully meeting the criteria of the population of people of practically healthy group of people of the same age and gender. However, the range of the variability parameters of homeostasis is much wider in athletes than in those who are not involved in sports; and rather often quite different values exceed the boundary population and can be treated as pre pathological and pathological. These changes reveal a higher adaptive capacity of an athlete.

It is completely obvious today that the diagnosis and correction of the functional state of athletes should be carried out taking into account the results of complex research methods and maximize personalized training plans, the amount and intensity of physical activity, the cycles of competition and recreation that in the future will relieve sport of the problems faced by coaches and doctors at the intensification of the training process.

That is, the diagnostic methods used in sports medicine should contribute to the early detection of conditions that can cause adverse effects of the impact of physical stress on the body, associated with the development of critical conditions and even deaths.

Therefore, an adequate diagnosis and assessment of the state of the body of people engaged in physical exercise seem extremely important area of sports medicine.



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UNIFICATION OF SPORTS TERMINOLOGY IN MODERN SPORTS MEDICINE

Summary. This article consistently addresses issues related to medical examinations of athletes, sports terminology, first of all, such as “untrained person”. Emphasizes, that the trained or untrained can only athletes in different periods of the training process. In the examples, the absurdity of comparing the functional state of the runners on the distance of 800 meters with the sports aerobics, sports gymnastics with the sports game, etc., recommendations aimed at the correct comparison of the studied parameters among representatives of different kinds of sports.

The author gives examples, in accordance with which is not quite right to divide the athletes at the “achievers” and “not achievers” in the sport only because of their performance in the competition, without taking into account the dynamics of a sports result.

Separately presented a vision of the author on appropriateness and features of research at the former athletes, who stopped his career and lead different lifestyles in terms of physical activity.

Key words: *sport medicine, sports terminology, veterans of sports.*

Currently there are many inconsistencies in the formulation of some concepts that relate to teaching, didactic, medical and sports formulation found in modern sports and medical literature in Ukraine. This often disorients scientists in the discussion of the results of their research. This article is aimed at the unification of terminology in the modern sports medicine.

Aim of the work – to draw the attention specialists and researchers of sports medicine, trainers to the problem of the concept of training, graduation

of athlete on the basis of successful and unsuccessful in sport and relevance of research in veterans of sports.

Materials and methods. In article used sources of special scientific sports and medical literature, own observations and research for active athletes and those, who terminated their sport activities, i.e. veterans of the sport.

Results and discussion. At the beginning of the development of medical monitoring for engaged physical culture and sports (because before the 70 years of XX century in the Soviet Union was called Sports Medicine) conducted medical examination and comparison of the results between the athletes of all specializations. Most often in the comparison groups were athletes different kinds of sport, and sometimes different genders, which, to determine the effect of physical activity on the body engaged in physical culture and sports, compared persons not involved in sports. In spite of this, some researchers have called and called the latter as “untrained person.” Unfortunately, in the textbook “Physical rehabilitation, sports medicine,” published in 2014 [10] also used this term.

Similar formulation, currently, is not reasonable, because ignored sports terminology, when authors forget that only athletes [5] can be trained or untrained. By us, the concept of trained persons implies a state of an athlete, is in good sports form (often in the competitive period), and untrained – a state of an athlete at the beginning of the preparatory period or after the compelled rest period, associated with injury or illnesses. Incidentally, the confirmation of this is the definition of well-known experts in pedagogy of high performance sport A.N. Bleer et al. [1], indicating that the “training – it’s a state of the body, which determines the level of physical preparedness an athlete, which is a the result of the training”.

It is known, that one of the sections of the sports doctor work is the question of admission to sport and, consequently, qualified recommendations, concerning the exactly how kind of sport it is advisable to engage a particular person, on the basis of its morphological and functional data. Sometimes the doctor error in resolving this issue could lead, at best, to the wrong choice of kind of sports and the loss of time, and at worst – to the emergence of diseases, and sometimes life-threatening disease, etc. Thus, the doctor of sport medicine must have not only high medical qualifications, but also be widely knowledgeable in of sport medicine, and especially, know specifics of some of kinds of sports, requirements for the body due to this specificity. That’s why in program of postgraduate medical education on medical physical culture and sports medicine there is a section, devoted to the theory and practice of physical training and sport. Future specialists are invited to explore issues, relating to

sports training exercises, learn the special formulation, allows you to talk with the coach on the “same language”. Sometimes, in conversation with some doctors or colleagues-scientists, feel the lack of understanding of the seemingly common sports terms. The same applies to the concept of “untrained person”.

Later, after proposed A.G. Dembo et al. in 1966 [3] classification of kinds of sport, in which all sports were considered from the point of orientation of the training process, for development of certain physical qualities and physiological patterns, used in training exercises are the same, there are scientific works which take into account these recommendations. At the same time, we met the scientific work, in which the author [11], compares the data of representatives of sports aerobics high class (IMS, MS, CMS), practicing 18 hour per week for several years, with students engaged in physical culture in the volume academic program for 2 hours a week, and thus judges about impact of physical activity on functional state of athletes, noting their superiority.

In addition, there are reports, that compare data, received from representatives of gymnastics with the sports games, single combat with the heavy lifting, representatives of sports aerobics with runners at the distance of 800 meters, etc. In the latter case, the author [2] compares the data of athletes, doing exercises sports aerobics, causing deep functional changes in the body of an athlete and accompanied by arrhythmic breathing, with run on 800 m, is an example of extreme physical activity in the zone of mixed (aerobic-anaerobic) energy supply. We think that is not quite correct to compare the data of athletes acyclic and cyclic kind of sport only for the duration of the competitive movement, which is about 2 minutes. Similar comparisons of performance in athletes with persons, who are not involved in sports or athletes, who are in training process developing various physical qualities, it seems, is not correct.

In recent years, studies, in which some authors have carried out a comparison of the results from athletes, who “successful” in sport and “unsuccessful”. We think, that in this case, researchers must, first of all, analyze the results for the sports competitions. In this plan significant research, conducted by I.A. Kuznetsova and S.I. Kudinova [4]. The authors took into account performances of athletes at competitions during two winter competitive season with the indicators of heart rate variability (HRV), showing, that at successful athletes before competitions some parameters of HRV were higher, than at less successful athletes.

It is known, that for assessing the success of an athlete, it is necessary to fix the original athletic performance, conduct relevant studies of the functional state in the training period, for example in the preparation, and then received a performances of the parameters in the competitive period, to carry out a

similar repeat examination, ie, traced in the dynamics occurring changes of the functional state of the athlete.

It should be clear, that at the start of the preparatory period, sports results at absolute number of athletes will be at relatively low levels, and this is not surprising. Then, under the influence of training loads, continuing in various sports from 3 to 9-10 months, occurs, most frequently, improving the functional state of athletes, physical qualities (parameters of strength, speed, endurance, etc.), technical of conditions, which should, in certain conditions, lead to improved of sports results. Under certain conditions we mean the absence of injury, illness, infringement of a mode, effects of overtraining and overexertion.

But the fact, that the normally delivered training process, improves the functional state of all athletes, leading to an increase of sports results, is an established, but the division of the athletes on the “successful”, that is, improve athletic performance and “unsuccessful”, that is, not improve athletic performance, without giving specific results of the competition – obviously far-fetched notion.

Then, just a question, in which of the proposed groups (“successful” or “unsuccessful”) include the athlete, who in the competition showed the same or even worse result, than in the preparatory period, but won at major competitions?

It is unclear which group may include cases where the athlete, despite the fact that they are in a good “sports form”, made unsuccessfully in the competition due to the fact that “burned out” in psychological terms.

Separately should stay on the study of the functional state in veterans of sports. Our studies have shown [6-8], that correct can be comparisons at veterans of sports with persons of the same age, who have never engaged in sports, to study positive and negative effects on the human body of physical activity of a particular kind of sport. Received interpretation of persistent changes of the functions in veterans of sports can contribute to the clinical assessment of these changes in practicing athletes. There are comparisons between group same kind of sport and gender at veterans of sports, who have stopped active sports, but continues engaged in physical exercises in the maintenance mode, with a group of veterans of sport, leading inactive way lifestyle. Finally, relevant comparison between veterans of sports and active athletes, who have the same personal sports performance [9]. Such comparisons are useful information, when they are carried out only in kinds of sports, where there are sports results, expressed in meters, centimeters, seconds, kilograms, ie, in athletics, swimming, rowing, heavy athletics, etc.

Thus, we believe, that the comparison of the studied parameters in athletes can be by age, length of service activities a particular kind of sport, sports

qualification, gender, length (in representatives of game sports), body weight (in combat sports, weightlifting, representatives of weight sport, separate types of rowing), period of the training process, and in sport games is also by type (forward, goalkeeper etc.).

Since investigations in sports medicine, to a greater degree, directed to the development of sports, i.e. for coaches and, of course, for the doctors of sports teams, then it is time to study the parameters in the individual disciplines of athletics, such as running on a short, medium or long distance, jumps – in height, throwing – spear and others. In swimming, in addition to distance and even the style, for example – front crawl, butterfly, etc. As one option, and very important, the ability to compare performance in athletes, developing the same physical qualities, such as endurance in marathon runners and representatives of road cycling, or speed, in athletes-sprinters and swimmers-sprinters, etc.

Regard to research at veterans of sport, the most important, we believe, is the comparison of the studied parameters between the former athletes particular kind of sport and of the same gender, leading active and inactive lifestyles, and with persons, never involved in sports in terms of benefits, or vice versa, damage employment of particular kind of sport at young age.

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